

WHAT IS CLAIMED IS:

1. A mobile radio having an antenna equipped for receiving and transmitting radio waves, comprising:

a base plate for providing a ground level; and

a built-in antenna which is disposed on said base plate,

5 wherein

said built-in antenna is provided with a supply portion at the upper end when said mobile radio is in a standing position, and is disposed so that a space to said base plate is decreased from the upper end to the lower end.

2. The mobile radio according to claim 1, wherein said built-in antenna is an antenna of a planar configuration, and is so slanted that the space to said base plate is larger at said upper end than said lower end.

3. The mobile radio according to claim 1, wherein said built-in antenna is structured by a plurality of planes, and the plurality of planes are structured as steps so that the space to said base plate is larger at said upper end than

5 at said lower end.

4. The mobile radio according to claim 2, wherein said built-in antenna is a planar inverted F antenna

including an antenna element, a supply connection member to which a predetermined voltage is supplied, and a short-circuiting  
5 connection member which is grounded to said base plate, and the supply connection member and the short-circuiting connection member are disposed on said upper end.

5. The mobile radio according to claim 3, wherein  
said built-in antenna is a planar inverted F antenna including an antenna element, a supply connection member to which a predetermined voltage is supplied, and a short-circuiting  
5 connection member which is grounded to said base plate, and the supply connection member and the short-circuiting connection member are disposed on said upper end.

6. The mobile radio according to claim 1, wherein  
a shield is provided between said built-in antenna and  
said base plate.

7. The mobile radio according to claim 6, wherein  
said built-in antenna is fixed by a support base which  
is disposed on said shield.

8. The mobile radio according to claim 1, wherein  
a cabinet which determines the outer appearance of said  
mobile radio is formed in accordance with the shape of said

built-in antenna.

9. The mobile radio according to claim 8, wherein  
said cabinet is structured at least by a first section  
which houses said built-in antenna, and a second section which  
is the rest of the cabinet, and said built-in antenna is previously  
5 attached to the first section.

10. A mobile radio having an antenna equipped for  
receiving and transmitting radio waves, comprising:

a base plate which is structured by an antenna-housing  
base plate and a circuit base plate; and

5 a built-in antenna which is disposed on said  
antenna-housing base plate, wherein

said antenna-housing base plate and said circuit base  
plate are not aligned on a same plane.

11. The mobile radio according to claim 1, wherein  
said base plate is structured by an antenna-housing  
base plate on which said built-in antenna is disposed, and a  
circuit base plate which is the rest of the base plate, and said  
5 antenna-housing base plate and said circuit base plate are not  
aligned on a same plane.

12. The mobile radio according to claim 2, wherein

said base plate is structured by an antenna-housing base plate on which said built-in antenna is disposed, and a circuit base plate which is the rest of the base plate, and said antenna-housing base plate and said circuit base plate are not aligned on a same plane.

13. The mobile radio according to claim 3, wherein said base plate is structured by an antenna-housing base plate on which said built-in antenna is disposed, and a circuit base plate which is the rest of the base plate, and said antenna-housing base plate and said circuit base plate are not aligned on a same plane.

14. The mobile radio according to claim 11, wherein said antenna-housing base plate and said circuit base plate are electrically connected to each other via a side wall.

15. The mobile radio according to claim 11, wherein a slit is provided in the vicinity of a junction between said antenna-housing base plate and said circuit base plate.

16. The mobile radio according to claim 15, wherein the length of said slit is a  $1/4$  wavelength of any desired resonant frequency.

17. The mobile radio according to claim 1, wherein  
a space between said built-in antenna and said base  
plate is partially or entirely filled with a dielectric material.

18. The mobile radio according to claim 11, wherein  
a space between said built-in antenna and said base  
plate is partially or entirely filled with a dielectric material.

19. The mobile radio according to claim 1, wherein  
said built-in antenna resonates with at least two  
frequencies.

20. The mobile radio according to claim 11, wherein  
said built-in antenna resonates with at least two  
frequencies.

21. The mobile radio according to claim 19, wherein  
said built-in antenna includes short-circuiting  
connection members which are grounded to said base plate, and  
determine, respectively, a first resonant frequency band and a  
5 second resonant frequency band, and either of the resonant  
frequency bands is selectively covered by controlling conduction  
for the short-circuiting members.

22. The mobile radio according to claim 20, wherein

said built-in antenna includes short-circuiting connection members which are grounded to said base plate, and determine, respectively, a first resonant frequency band and a  
5 second resonant frequency band, and either of the resonant frequency bands is selectively covered by controlling conduction for the short-circuiting members.

23. The mobile radio according to claim 19, wherein  
said built-in antenna includes a short-circuiting connection member which is grounded to said base plate and a slot, and determine, respectively, a first resonant frequency band and  
5 a second resonant frequency band, and by an action of an antenna element and the slot, the first and second resonant frequency bands are covered at the same time.

24. The mobile radio according to claim 20, wherein  
said built-in antenna includes a short-circuiting connection member which is grounded to said base plate and a slot, and determine, respectively, a first resonant frequency band and  
5 a second resonant frequency band, and by an action of an antenna element and the slot, the first and second resonant frequency bands are covered at the same time.